

552, 680

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
21 October 2004 (21.10.2004)

PCT

(10) International Publication Number
WO 2004/089078 A1

(51) International Patent Classification⁷: **A01M 21/04**

(21) International Application Number:
PCT/CA2004/000524

(22) International Filing Date: 7 April 2004 (07.04.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2,425,029 10 April 2003 (10.04.2003) CA

(71) Applicant and

(72) Inventor: **KLAPTCHUK, Peter** [CA/CA]; Box 26030,
1850 Industrial Drive, Regina, Saskatchewan S4R 8R7
(CA).

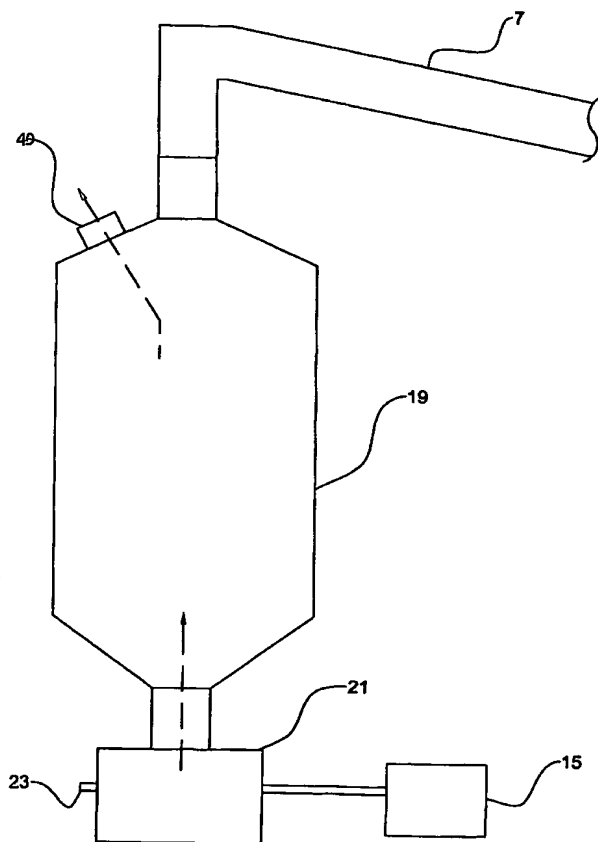
(74) Agent: **FURMAN, Cory**; 1400 - 2002 Victoria Avenue,
Regina, Saskatchewan S4P 0R7 (CA).

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: METHOD OF DESTROYING SEEDS



(57) Abstract: A method of sterilizing seeds comprises heating the seeds to substantially 95°C or higher and maintaining same at that temperature for substantially 30 minutes. Preferably a combination of steam and microwaves is used to maintain the temperature. Dampening the seeds with steam and water at the start of the process helps the microwaves work more efficiently in maintaining temperature. The method further comprises treating the seeds with ozone which functions both to sterilize seeds as well as to sterilize pathogenic organisms and to degrade residual herbicides, pesticides and like chemicals that may be present in a seed sample. An auger conveyor (7) carries the seed through the process. Temperature sensors (13) monitor the temperature of the seeds and control the speed of the auger so that the seeds are maintained at substantially 95 °C for substantially 30 minutes prior to exiting the output end of the auger conveyor (7). Ozone sensors (17) monitor ozone concentration in order to maintain a concentration of ozone effective to sterilize biological materials as well as to degrade residual chemicals present in seed samples. The auger (7) continuously agitates the seed to expose the seeds to the microwaves and ozone.

WO 2004/089078 A1



Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.